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Attorney Docket No. VI-01202/29

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Posa et al.

Serial No.: 09/625,531

Group No.: 2682

Filed: July 26, 2000

Examiner: E. Orgad

For: REMOTE MICROPHONE TELECONFERENCING CONFIGURATIONS

APPEAL BRIEF UNDER 37 CFR §1.192

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Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I. Real Party in Interest.

The real party in interest is Videa, LLC, a Michigan limited liability company, by assignment.

II. Related Appeals and Interferences.

There are no related appeals or interferences.

III. Status of Claims.

The application was originally filed with 17 claims. Claims 2 and 3 were canceled by amendment in September 2003. Claims 1 and 4-7 have been canceled by an after-final amendment attached hereto. Accordingly, claims 8-17 remain pending and are under appeal.

IV. Status of the Amendments.

An after-final amendment is being filed herewith canceling claims 1 and 4-7 without prejudice to the filing of a continuation application.

V. **Summary of the Invention.**

This invention resides in electronic teleconferencing configurations incorporating one or more remote microphones for added functionality. Broadly, the invention includes a base unit having an interface to a telecommunications network, and at least one remote microphone in wireless communication with the base unit, enabling a carrier of the microphone to speak to a listener through the base unit over the telecommunications network (Specification, page 2, lines 2-7).

In one embodiment, the base unit forms part of a telephone, and further includes a docking station to receive the remote microphone (Specification, page 2, lines 8-9). The base unit preferably further includes a set of electrical contacts between the remote microphone and the base unit and a switch in electrical communication with the switch means, causing the telephone to enter into a speakerphone mode when the remote microphone is removed from the docking station for use (Specification, page 2, lines 9-13). A speaker may either be provided in the base unit, or may be disposed in the housing of the remote microphone, for example, in the form of a headset (Specification, page 2, lines 13-14).

A more complex embodiment would include a plurality of remote microphones, along with audio processing circuitry operative to deliver the signals to a remote participant through the telecommunications network interface (Specification, page 2, lines 15-17). The audio processing circuitry may include a level control, causing the volume associated with each microphone to appear uniform to the listener, or may include discrimination circuitry operative to selectively pass the audio from a subset of the microphones based upon current usage (Specification, page 2, line 17 to page 3, line 1). Such discrimination may be based upon separate carrier frequencies or, if a common carrier frequency is used, packetized header information (Specification, page 3, lines 1-2).

The telecommunications apparatus of the invention may also form part of a video teleconferencing system, in which case one or more cameras would be employed to capture user images for transmission through the telecommunications network (Specification, page 3, lines 3-5). As a further option, the system may transmit a wireless signal for transponding by the remote units, enabling the determination of distance to the base unit. In this embodiment, a series of acoustic pulses are preferably broadcast to each active microphone, which is relayed back to the base unit to determine distance based upon time-of-flight (Specification, page 3, lines 5-9).

Particularly with the use of separate frequencies, the location of each remote microphone may also be determined using multiple antennas and triangulation. By knowing distance and/or position, additional capabilities are possible by virtue of the invention. For example, with the addition of a pan/tilt mount, a camera may be automatically pointed at a user while speaking. With distance information, the camera may be zoomed to include one or more subjects and/or auto-focused. Subject framing and/or depth-of-field also be adjustable as a function of distance. (Specification, page 3, lines 10-16).

VI. Issues.

Are claims 8-17 unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 6,069,943 to David et al. in view of U.S. Patent No. 6,469,732 to Chang et al.?

VII. Grouping of Claims.

Appellant believes the following groups of claims represent patentably distinct subject matter warranting independent consideration by the Board:

Group I: Claims 8 and 13, which stand or fall as one; and

Group II: Claims 9-12 and 14-17, wherein claims 10-12 and 14-17 stand or fall with claim

9.

VIII. Argument

A. Group I - Claims 8 and 13, which stand or fall as one.

Claim 8 stands rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,069,943 to David et al. in view of U.S. Patent No. 6,469,732 to Chang et al.

Claim 8 includes the limitation of a base unit forming a video teleconferencing system including a video camera for capturing images, along with other recitals. The Examiner concedes that David et al. fails to disclose a video teleconferencing system, but argues that it would have been obvious to combine Chang's video capabilities with David's base station "in order to provide David with video means as well as a camera that is capable of automatically steering itself to the user."

This reasoning is flawed on several grounds. First, in rejecting claims under 35 U.S.C. §103, the Examiner must provide a reason why one having ordinary skill in the pertinent art would

have been led to combine the cited references to arrive at Applicant's claimed invention. There must be something *in the prior art* that suggests the proposed combination, other than the hindsight gained from knowledge that the inventor choose to combine these particular things in this particular way. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988). The Examiner is also required to make specific findings on a suggestion to combine prior-art references. In Re Dembeczak, 175 F.3d 994, 1000-01, 50 USPQ2d 1614, 1617-19 (Fed. Cir. 1999).

The invention of David provides a circuit and method for enabling a telephone having two lines (analog, digital, radio, etc.) to be connected to one call and have the capability of conducting a second simultaneous call while maintaining a monitoring function on the first call. In a teleconference initiated in accordance with this patent, a user will be able to collaborate with a fellow conferee or third party (hereinafter referred to as a "collaborator"), while keeping track of the proceedings of the teleconference. With the use of the router, the outbound audio signal of the user can easily be switched between the teleconference and the collaborator. Thus, the goal and point of novelty of David concerns audio switching, and has nothing to do with video.

According to Chang et al., an apparatus and method in a video conference system provides accurate determination of the position of a speaking participant by measuring the difference in arrival times of a sound originating from the speaking participant, using as few as four microphones in a 3-dimensional configuration. In one embodiment, a set of simultaneous equations relating the position of the sound source and each microphone and relating to the distance of each microphone to each other are solved off-line and programmed into a host computer. In one embodiment, the set of simultaneous equations provide multiple solutions and the median of such solutions is picked as the final position. In another embodiment, an average of the multiple solutions are provided as the final position.

Although the Chang patent concerns video and position determination, hard-wired microphones are clearly used. Reference is made to Column 3, lines 55 to 65 of the -732 patent, which read as follows: "As shown in FIG. 1, video teleconference system includes host computer 101 and data acquisition system 108. Data acquisition system 108 includes cameras 104L and 104R, and microphones 107L, 107R, 107T and 107C. Sounds received at microphones 107L, 107R, 107T and 107C are processed and sampled in a time delay estimation and voice activity detection module

106 to provide position data over bus 105 for analysis in host computer 101. Time delay estimation and voice activity detection module 106 can be provided, for example, by a digital signal processor implementing one of a number of methods for determining the time delays at the microphones, or for determining directions relative to each microphone of the sound source. In this embodiment, a Cross-Power Spectrum Phase (CPSP) method, described in further detail below, is used."

Not only are hard-wired connections discussed and shown in Figure 1 of the '732 patent, the mode of operation and equations are based upon this implementation. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). In this case, there is no teaching or suggestion in Chang et al. to use wireless microphones, nor is there any description as to how such a system would be technically accommodated by Chang et al. Accordingly, *prima facie* obviousness is precluded.

B. Group II - Claims 9-12 and 14-17, wherein claims 10-12 and 14-17 stand or fall with claim 9.

Claim 9 also stands rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,069,943 to David et al. in view of U.S. Patent No. 6,469,732 to Chang et al.

Claim 9 adds to claim 8 the limitations of a wireless signal transmitter, and a remote microphone that re-transmits the wireless signal to the base unit, enabling the base unit to determine a positional aspect of the user of the microphone. The Examiner concedes that:

"David fails to specifically disclose a wireless signal transmitter, and wherein the remote microphone re-transmits the wireless signal to the base unit, enabling the base unit to determine a positional aspect of the user of the microphone. However, as shown in claim 8, Chang's positioning aspects (col. 2, lines 1-14) are notoriously well known and therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include Chang's well known video conferencing system with David's already existing remote microphone communication system in order to provide David with a camera that is capable of automatically steering itself to the user (microphone).

However, the notoriety of "Chang's positioning aspects" are inconsequential unless they read on Appellants' claim elements, which they do not. The Examiner cites Column 2, lines 1-14 of Chang, which read thusly:

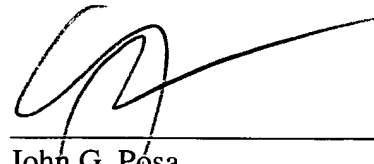
"The present invention provides the one or more possible positions by solving a set of simultaneous equations relating the location of the speaking participant to the positions of the microphones, and relating positions of the microphones to each other; and applying the computed time delays to the solutions of the simultaneous equation. Each possible positions [sic] is found by symbolically solving a selected group of the set of simultaneous equations. In one embodiment, the present invention eliminates from the possible solutions outside a predetermined volume in space. In one embodiment, the final position is obtained by selecting the median of the possible solutions. In another embodiment, the final position is an average of the possible solutions. Further the average can be a weighted average."

This approach is not based upon the retransmission of a wireless signal, but rather, a triangulation technique whereby multiple hard-wired microphones at specific positions pick up the same sound (See Fig. 2 and accompanying text of the '732 patent); from this, the position of the speaker may be determined through the various equations presented. Thus, even if the David/Chang combination were legitimate, which it is not for reasons already of record, Appellant's invention as claimed would not result. Accordingly, *prima facie* obviousness is precluded here as well.

Conclusion

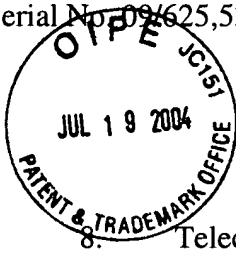
Based upon the foregoing, Appellants believe all pending claims continue to be in condition for allowance and seeks the Board's concurrence on a timely basis.

Respectfully submitted,



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APPEALED CLAIMS

8. Telecommunications apparatus, comprising:
- a base unit, including an interface to a telecommunications network;
 - at least one wireless remote microphone in wireless communication with the base unit, enabling a user of the microphone to speak to a listener through the base unit and telecommunications network; and
 - wherein the base unit forms part of a video teleconferencing system including a video camera for capturing images of the user for transmission to the listener through the telecommunications network.
9. The telecommunications apparatus of claim 8, further including:
- a wireless signal transmitter; and
 - wherein the remote microphone re-transmits the wireless signal to the base unit, enabling the base unit to determine a positional aspect of the user of the microphone.
10. The telecommunications apparatus of claim 9, further including:
- a pan or tilt mount associated with the video camera which is controlled as a function of the positional aspect.
11. The telecommunications apparatus of claim 9, further including:
- an auto-focusing capability for the video camera which is controlled as a function of the positional aspect.
12. The telecommunications apparatus of claim 9, further including:
- a zoom lens associated with the video camera which is controlled as a function of the positional aspect.
13. The telecommunications apparatus of claim 8, further including:
- a plurality of remote microphones, each transmitting a wireless audio signal to the base unit.

14. The telecommunications apparatus of claim 13, further including:
one or more wireless signal transmitters; and
wherein each remote microphone re-transmits one of the wireless signals to the base unit,
enabling the base unit to determine a positional aspect of each user.

15. The telecommunications apparatus of claim 14, further including:
a pan, tilt, and zoom capability associated with the video camera which is controlled as
function of the positional aspect of each user, enabling the camera to selectively frame the image of
one or more users for transmission through the telecommunications network.

16. The telecommunications apparatus of claim 15, wherein the pan, tilt, or zoom
capabilities are effectuated by selecting a subset of pixels from a larger number of pixels in an
image gathered by the camera.

17. The telecommunications apparatus of claim 14, further including:
an auto-focusing capability for the video camera which is controlled as a function of the
positional aspect of each user, enabling the camera to control depth-of-field associated with one or
more users.